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ORIGINAL PAPER

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Key words opioid dependence · classification · depressive type

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Introduction

For more than a century there have been numerous attempts to classify substance use disorders. The majority of these classifications concerned male alcoholism; Babor and Lauerman (1986) reviewed 39 male alcoholism typologies, some of them having achieved a certain reputation (Jellinek 1960). Nevertheless, none has been generally accepted. In recent years, a classification proposed by Cloninger et al. (1981) has received more attention than others. Based on a large sample of Swedish adoptees the authors proposed two types of alcoholism: milieu-limited type I alcoholism with biological parents presenting mild alcohol abuse and minimal criminality, and male-limited type II alcoholism with biological fathers presenting severe alcoholism requiring extensive treatment, aggressive behavior while intoxicated, and serious criminality. Type II alcoholism should be highly heritable and have a three times lower prevalence rate.

Other authors, testing these two types of alcoholism classification, extended and elaborated the classification criteria set by adding further clinical characteristics. Von Knorring et al. (1985, 1985a) stressed the younger age at the onset of drinking and at the first treatment contact and negative social consequences of drinking in type II. Buydens-Branchey (1989) pointed to the frequent suicidal and aggressive behavior in type II alcoholics. Finally, Babor et al. (1992) described type B alcoholics, corresponding in many respects to type II alcoholics, and they characterized this type by a high rate of childhood disorders, serious medical and social consequences of drinking, polydrug use and a higher degree of psychopathology in terms of depression, anxiety and antisocial personality. There is a substantial

overlap among some of these typologies and it has been argued that type I/type II typology may in fact reflect a simple early/late onset distinction, whereas severity of substance use may be driving the type A/type B distinction (Epstein et al. 2002). Nevertheless, there appear to be two distinct broad types of alcoholism: type II, characterized by early onset of drinking with a series of medical, psychiatric, behavioral, and social complications, and type I, characterized by late onset of drinking and a low prevalence of these complications, and these types have subsequently been confirmed (Schuckit et al. 1995; Modestin and Würmle 1997).

The situation is less clear regarding typology of patients with other substance use disorders, first of all typology of opiate dependence. As Blatt and Berman (1990) stated, opiate addicts have traditionally been viewed as a relatively homogeneous population and a great deal of research has been devoted to the identification of psychopathology characteristics of the typical addict. Nevertheless, analyzing the literature, three different types of opiate abusers emerged (Blatt et al. 1984), briefly characterized as a group with a borderline level of pathology, a group with narcissistic pathology and a depressed group. On the basis of the results of psychological tests, Blatt and Berman (1990) themselves succeeded in identifying three somewhat different opiate addicted personality types, characterized as character disordered, borderline psychotic, and depressed. Three types of male opiate addiction had also been proposed by Simpson and Savage (1981–1982), mainly restricted to variations in criminal history and legal involvement, and several diagnostic types were delineated by Steer and Schut (1979), considering Brief Psychiatric Rating Scale psychopathology: both typologies used a narrow range of criteria. Finally, based on the study of family history, Rounsaville et al. (1991) suggested subtyping opiate addicts by the presence or absence of major depression.

There is an overlap as well as similarities between different groups of patients with substance use disorders. Many opiate dependent patients also abuse alcohol (Weller et al. 1980; Cadoret et al. 1984; Herd 1993), and a considerable proportion of them are even alcohol dependent (Maddux 1989). Patients with substance abuse of a different kind frequently experienced stressful early environment. Further, the abuse leads to similar social consequences and also, alcohol dependent and opiate dependent patients share a series of characteristics such as increased level of sensation seeking (Zuckerman 1994), aggression, depression and lack of impulse control (Craig 1979). Therefore, we decided to test the hypothesis that the two types of classification, established as type I and II in male alcoholism, could also be relevant in male opioid dependence. In a few studies, the type A/type B classification has also been tested in abusers of drugs other than alcohol (Ball et al. 1995; Feingold et al. 1996; Basu et al. 2004).

Methods

Study subjects

The participants were 100 adult men suffering from opioid dependence and admitted for inpatient treatment in three different psychiatric hospitals in the Canton of Zurich, all of them having a specialized unit for patients with substance disorders. All patients, consecutively admitted and hospitalized during the study period between August and December, 1998, were addressed and included in the study, provided they had received the ICD-10 (WHO 1991) main diagnosis F11.21 (opioid dependence, at present abstinent in a protective milieu); were 18 to 65 years old; were not given any diagnosis of comorbid psychotic (including bipolar) disorder according to ICD-10 (WHO 1991) by their treating psychiatrists; and were able to speak German well enough to complete a self-report questionnaire and to participate in an interview. At the time of the assessment, the patients no longer suffered from withdrawal symptoms. Only a few eligible patients refused to participate.

Instruments

A clinical criteria inventory was compiled by the authors to be completed by the interviewer during an extended semi-structured clinical interview. In order to develop the inventory and to devise the interview, four relevant criteria sets have been identified in the literature and considered; criteria sets devised by Cloninger (1987) and Cloninger et al. (1981, 1982), by von Knorring et al. (1985, 1987), by Buydens-Branchey et al. (1989) and by Babor et al. (1992). Some criteria were encountered in all four sets; e. g., substance abuse by the parents, age of the patient at the first substance abuse. Other criteria were differently weighted by different authors or were even encountered in only a single set. Altogether, 20 to 30 criteria were considered for each set: a total of 23 criteria in the set proposed by Cloninger (1987) and Cloninger et al. (1981, 1982), 29 criteria in the set proposed by von Knorring et al. (1985, 1987), 23 criteria in the set proposed by Buydens-Branchey et al. (1989) and 26 criteria in the set proposed by Babor et al. (1992). As opiate dependent and not alcohol dependent patients were studied, some item-formulations were modified accordingly; e. g., substance abuse instead of alcohol abuse was enquired about. Attention deficit/hyperactivity disorder, conduct disorder, depressive episode and generalized anxiety disorder were explored with the help of DSM-IV (APA 1994) criteria. The severity of suicide attempts was evaluated according to the recommendation by Motto (1965).

Instead of personality characteristics, the presence of personality disorders (PDs) was studied; higher prevalences of personality disorder were found among type B substance abusers (Ball et al. 1998). For this purpose, the Structured Clinical Interview for DSM-IV personality disorders SCID-II (First et al. 1996) was used in its German version (Wittchen et al. 1997), covering all 10 DSM-IV PDs as well as negativistic and depressive PD. A SCID-II self-report personality questionnaire (SCID-II PQ) was used as a screening tool, allowing the clinician to inquire in the subsequent interview only about items screened positive and to check individual negative responses when deemed necessary. False negative diagnoses in PD self-reports are extremely rare (Modestin et al. 1998). SCID-II PQ scales are relatively stable over time, median 2 to 3 months test-retest correlation was 0.69 (Ouimette and Kleine 1995). Regarding SCID-II, 1 to 14 days test-retest reliability study yielded an overall weighted κ of 0.53 (First et al. 1996) indicating a fair agreement. Although these reliability studies were carried out with DSM-III-R SCID-II versions, there are only minimal differences between the DSM-III-R and DSM-IV SCID-II versions (Wittchen et al. 1997).

Some validity checks of the data indicated by the patients were carried out: We expected information on criminal record and on history of verbal aggression while abstaining to be more frequent in the patients with antisocial PD diagnosed with the help of SCID-II, and also suicide attempts and serious suicide attempts to be more frequent in the patients with a history of depression. These associations

were confirmed, all of them being statistically significant. Incidentally, "dual diagnosis" patients had a higher rate of suicide attempts (Soyka et al. 1993) and the correlation between suicide attempts and depressive disorders has recently been confirmed in alcoholics (Koller et al. 2002).

Procedure

The study design had been approved by the relevant local ethics committee. After a written informed consent had been obtained from all participants, the patients completed the self-report questionnaire (SCID-II PQ; Wittchen et al. 1997) and were interviewed by one of the authors (BM), a psychiatrist with over 6 years' professional experience, to complete the above mentioned clinical inventory. Following this, the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II; Wittchen et al. 1997) was carried out. In some participants the interview required two sessions. The interviewer was also given some additional data by the psychiatrists treating the patients, such as ICD-10 (WHO 1991) clinical diagnoses of all comorbid conditions, and the results of HIV and hepatitis tests.

Statistical evaluation

First, all data were summarized to provide the frequencies of the individual characteristics in the whole sample. Second, we selected those variables which corresponded to the individual criteria sets delineated by Cloninger (1987) and Cloninger et al. (1981, 1982), von Knorring et al. (1985, 1987), Buydens-Branchey et al. (1989) and Babor et al. (1992) as differentiating between the two types of alcoholism and as potentially differentiating between two types of opioid dependence. The number of selected variables differed from 23 to 30 in the four sets. By means of four individual cluster analyses (k-means type) the two cluster solution with a larger cluster C1 and a smaller cluster C2 could be reproduced in all four runs. The number of variables decisive for the cluster formation was 6 to 21 considering only variables with higher F-values ($p < 0.1$).

In the next step, 52 patients and 25 patients, who in at least three of four cluster analyses had been equally classified as belonging to the same cluster C1 and C2, respectively, were compared with each other. The stepwise discriminant analysis was used, which allows, from a larger pool of variables, those most strongly contributing to the group formation to be identified. In this analysis all variables were considered which in the univariate comparisons between both groups (carried out with χ^2-test and t-test) differentiated between both groups at the alpha level of 0.2. A total of 43 variables (including all 39 variables indicated in Table 4) were considered, and $p < 0.05$ and $p < 0.2$ were chosen for whether a variable should be entered into, or removed from the model respectively.

Results

In Table 1 sociodemographic and clinical characteristics of the sample are shown. The patients were 30 years old

Table 1 Sociodemographic and clinical characteristics of 100 opioid dependent men

Age [years]: MN ± SD	29.7 ± 6.2
Marital status:	
single	82
Professional qualification	68
No regular employment in the last 3 months	87
Age at 1st drug intake [years]: MN ± SD	14.9 ± 4.0
Age at 1st opioid intake [years]: MN ± SD	19.6 ± 4.7
Age at regular opioid intake (≥ 3 x/week) [years]: MN ± SD	21.1 ± 5.7
Age at 1st outpatient therapy for opioid related disorder [years]: MN ± SD	23.5 ± 6.1
Age at 1st inpatient therapy for opioid related disorder [years]: MN ± SD	25.4 ± 6.3
No. of inpatient treatments for opioid related disorder	5.7 ± 5.6
Additional substance (ab)use:	
Cocaine	75
Alcohol	24
Cannabis	40
Benzodiazepines	32
Violent behavior while intoxicated	19
Guilty feelings regarding substance abuse	60
Absences at work due to substance abuse	74
Job losses due to substance abuse	67
Criminal record:	79
crimes against property	42
violations of traffic law	29
violations of drug law	70
Arrests while intoxicated	79
Arrests following driving while intoxicated	37
Conflict with parents due to substance abuse	77
Loss of partner due to substance abuse	68
History of verbal aggression while abstaining	43
History of verbal aggression while intoxicated	24
Accidents while intoxicated	44

Indicated are frequencies; in case of continuous variables means (MN) and standard deviations (SD)

on average, mostly single, with a professional qualification, but not regularly employed recently. Typically, they started their first drug consumption aged 15 years and opioid consumption aged 19–20 years. They frequently also consumed other drugs, mostly cocaine, and their regular drug intake led to serious psychosocial complications. As Table 2 indicates, they presented a considerable psychiatric comorbidity and a frequent history of suicidal behavior. Family history revealed frequent alcohol/drug abuse/dependence among fathers, abuse of benzodiazepines among mothers. Fathers were frequently violent, mothers depressed. In Table 3, prevalences of interview-based diagnoses of DSM-IV personality disorders in the sample are given.

As mentioned, the whole data pool was analyzed with the help of four cluster analyses. Two cluster solution could be confirmed with all four individual criteria sets. All four analyses resulted in a larger cluster C1 of 53 to 70 members (mean 62) and a smaller cluster C2 of 30 to 47 members (mean 38). Variables contributing to cluster solutions in all four cluster analyses are shown in Table 4. Cluster 2 is characterized by a higher frequency or degree of deviation, cluster C1 by an absence or lesser degree of pathology in all variables. Cluster C1 represents the opposite of cluster C2. As Table 4 shows, using the criteria set by Cloninger et al. (1981, 1982), cluster C2 was most prominently characterized by parental substance abuse and antisocial behavior and personality disorder in the patient. Using criteria set by von Knorring et al. (1985, 1987), it was most prominently characterized by early and multiple substance use by the patient and ensuing negative social consequences, and parental alcohol abuse and depression. Considering the criteria set by Buydens-Branchey et al. (1989), it was most prominently characterized by depression and suicidal behavior in the patient. Finally, regarding the criteria set by Babor et al. (1992), cluster C2 was most prominently characterized by comorbid mental disorders in the patient including depressive, generalized anxiety, and attention deficit and hyperactivity disorders.

A total of 77 of 100 patients could in at least three of four cluster analyses be equally classified: i. e., they appeared in the same cluster; 52 patients in cluster C1, 25 patients in cluster C2. The results of the stepwise discriminant analysis, comparing these 52 patients from cluster C1 and 25 patients from cluster C2, are indicated in Table 5. The analysis yielded a model comprising 7 variables enabling the optimal group allocation. The discriminant function of the 7 variables proved to be very good: the Eigenvalue was 3.96, which indicates a good discriminant function, the canonical correlation coefficient was 0.89, which indicates a good separation between the groups. The Wilks' Lambda value, indicating the degree of separation of the mean values of the discriminant function in both groups, was 0.201 ($\chi^2 = 114.56$, df = 7, $p < 0.0001$). Altogether, 73 of 75 patients (98 %) could be correctly allocated to their appropriate groups.

Table 2 Comorbidity and family history data of 100 opioid dependent men

Present generalized anxiety disorder	21	
Present depressive disorder	31	
Past therapy for depressive disorder	41	
Suicide attempt(s)	42	
Serious suicide attempt(s)	32	
Repeated suicide attempts	22	
Child disorders:		
Brain damage	10	
Attention deficit	27	
Hyperactivity	21	
ADHD	11	
Conduct disorder	54	
Hepatitis B	27	
Hepatitis C	27	
HIV positivity	9	
Family history*	Father	Mother
Alcohol abuse/dependence	35/98 (36)	11/99 (11)
Opioid abuse/dependence	3/98 (3)	1/99 (1)
Abuse of other illegal drugs	3/98 (3)	2/99 (2)
Use/abuse of other psychotropics	53/98 (54)	38/99 (38)
Benzodiazepines	4/53 (8)	15/38 (39)
Pain killers	13/53 (25)	9/38 (24)
Outpatient therapy for substance use disorder	12/78 (15)	14/44 (32)
Inpatient therapy for substance use disorder	10/77 (13)	6/44 (14)
Criminal record	7/97 (7)	2/97 (2)
Violent behavior	37/98 (38)	17/98 (17)
Outpatient therapy for depressive disorder	9/96 (9)	22/96 (23)
Inpatient therapy for depressive disorder	0/96 (0)	9/96 (9)

Indicated are frequencies; in case of continuous variables means (MN) and standard deviations (SD)

* Complete data set not available for all patients. Percentages are given in parentheses

Table 3 Prevalence of personality disorders in 100 opioid dependent men

Paranoid PD	14
Schizoid PD	12
Schizotypal PD	4
Any PD Cluster A	23
Histrionic PD	12
Narcissistic PD	2
Borderline PD	51
Antisocial PD	23
Any PD Cluster B	59
Avoidant PD	7
Dependent PD	3
Obsessive-compulsive PD	7
Any PD Cluster C	15
Negativistic PD	7
Depressive PD	7
Any PD	67

Table 4 Cluster characteristics based on four criteria sets

Criteria set	Cloninger et al. (1981, 1982)	v. Knorring et al. (1985, 1987)	Buydens–Branchey et.al. (1989)	Babor et al. (1992)
n Cluster C2/n Cluster C1	30/70	39/61	35/65	47/53
Father violent (%)	83/17			
Father alcohol abuse/dependence (%)	70/20	64/16		45/26
Patient PD Cluster A (%)	53/10			
Mother abuse legal psychotropics (%)	57/16	41/20		43/15
Mother violent (%)	36/9			
Father abuse legal psychotropics (%)	7/1			
Patient low age at 1st drug intake (MN, y)	14/15	13/16	14/15	
Patient PD Cluster C (%)	70/54			
Patient able to control opioid intake (%)	13/34			
Mother therapy for substance use (%)	30/7			
Patient violent while intoxicated (%)	30/14			
Father nicotine abuse (%)	41/23	54/25		
Patient additional benzodiazepine abuse (%)		62/13		49/17
Patient low age at 1st outpatient therapy for opioid related disorder (MN, y)		20/26		
Patient low age at 1st inpatient therapy for opioid related disorder (MN, y)		22/27		
Patient job losses due to substance abuse (%)		90/52		
Patient low age at 1st acknowledging drug problem (MN, y)		20/24		
Mother inpatient therapy for depression (%)		21/2		
Patient low age at 1st opioid intake (MN, y)		18/21		
Patient low age (MN, y)		27/31		
Patient additional alcohol abuse (%)		41/13		
Father outpatient therapy for depression (%)		21/2		
Mother alcohol abuse/dependence (%)		23/3		
Patient low age at 1st regular opioid intake (MN, y)		19/22		
Mother outpatient therapy for depression (%)		36/13		
Patient taking methadone (%)		41/16		
Patient absences at work due to substance abuse (%)		90/64		
Mother nicotine abuse (%)		23/8		
Patient additional cocaine abuse (%)		85/69		
Patient suicide attempts (%)			100/11	
Patient repeated suicide attempts (%)			63/0	
Patient serious suicide attempts (%)			91/0	
Patient longer abstinent after last therapy (MN, w)			2/1	
Patient previous therapy for depression (%)			63/29	87/0
Patient present depression (%)				28/4
Patient accidents while intoxicated (%)				57/32
Patient generalized anxiety disorder (%)				32/11
Patient ADHD/childhood (%)				19/4
Patient higher No. of inpatient treatments for opioid related disorders (MN)				7/5

Presented are data (mostly percentages) for Cluster C2/Cluster C1
MN mean; *y* years; *w* weeks

Discussion

We studied a sample of 100 opioid addicts seeking treatment. Comparing their characteristics with the data presented in the literature, many similarities appear, confirming the representativity of our sample. These similarities concern, among other factors, comorbidity, co-abuse, criminal involvement, suicidal behavior and somatic condition: An important comorbidity of opioid dependence indeed exists with depressive, anxiety and personality disorders (Ahmad et al. 2001; Strain 2002; Frei and Rehm 2002a). A meta-analysis (Frei and Rehm 2002a), comprising almost 4000 opioid addicts yielded lifetime prevalence of 42 % for personality, 32 % for mood, and 8 % for anxiety disorders. Frei and Rehm (2002) found personality disorder in their own study in 58 %, mood disorder in 55 % and anxiety disorder in

Table 5 Result of the discriminant analysis

Step	variable	Wilks' Lambda	Exact F	Significance
1	Patient therapy for depression	0.494	76.70	0.000
2	Father alcoholic	0.381	60.15	0.000
3	Patient severe SA	0.303	55.99	0.000
4	Patient additional BD abuse	0.260	51.27	0.000
5	Father outpatient therapy for depression	0.232	47.06	0.000
6	Patient younger age	0.215	42.51	0.000
7	Patient violent under drugs	0.201	39.07	0.000

26 % of their patients – percentages comparable with ours. Psychiatric comorbidity in opiate dependence is important; generally it is associated with worse psychosocial and medical status and poorer outcome (Cacciola et al. 2001; Krausz et al. 1999). The prevalences of personality disorders in our sample are quite comparable with those found elsewhere (Malow et al. 1989), even though the rates of borderline personality disorder differ considerably from sample to sample (Verheul et al. 1995; DeJong et al. 1993). Co-abuse of other substances in opioid dependence is frequent and it concerns cocaine (Brooner et al. 1997), cannabis and amphetamine (Caetano and Shaffer 1996), alcohol (Herd 1993; Rittmannsberger et al. 2002) and benzodiazepines (Rooney et al. 1999). Many opiate addicts have a criminal record (Kokkevi et al. 1993), especially when there is comorbid antisocial personality disorder (Bovasso et al. 2002). As in our sample, property and drug offences are the most frequent (Hall et al. 1993). Opioid addicts represent a risk group for suicide attempts (Kokkevi and Stefanis 1995; Krausz et al. 1996; Franke et al. 2003); they are about 10 times more likely to attempt and 14 times more likely to complete suicide than community controls (Darke and Ross 2002). Finally, a comparable HIV-positivity rate of 12 % was reported (Gombas et al. 2000).

Viewing the overlap between abuse of alcohol and opiates that has been addressed in the Introduction, we assumed that the two types of classification, repeatedly demonstrated in patients with alcoholism, could also be found in patients with opiate dependence. We tested four criteria sets defining these two types, described by Cloninger (1987) and Cloninger et al. (1981, 1982), von Knorring et al. (1985, 1987), Buydens-Branchey et al. (1989) and Babor et al. (1992). Ball et al. (1995) confirmed the type A/type B classification in cocaine abusers and Feingold et al. (1996) found the type A/type B distinction to be largely generalizable across different drugs, even though it appeared less valid for marijuana and opiates than for alcohol and cocaine. The sets we tested are similar but not identical, as they are partially composed of different criteria. The results confirmed our assumption: Two types of opioid addicts could be identified with the help of all four (slightly modified) individual criteria sets. Correspondingly to the differences between the four original criteria sets however, the types were – at least to some degree – differently defined. Nevertheless, the majority of our probands (77 %) appeared in the same cluster in at least three of four analyses, i. e., they were found to belong to the same type. In other words, basically two identical groups of patients could be identified, applying four – to some degree different – criteria sets. Altogether, the cluster C2, smaller in all four analyses, was positively defined by younger age of the patients and their earlier substance use, higher degree of ensuing social consequences and abuse of multiple substances. The patients in cluster C2 more frequently suffered from comorbid mental disorders including depression, generalized anxiety disorder, personality disorder and childhood disorders, more frequently presented suicidal behavior, and were characterized by parental pathology in terms of substance abuse including alcohol, antisocial behavior and depression. In the patients in cluster C1 all these characteristics were encountered much less frequently.

Multivariate stepwise discriminant analysis was carried out to determine variables best discriminating between the clusters, i. e., best defining the two types. The analysis yielded seven variables including patients' younger age, lifetime depression requiring therapy, history of severe suicide attempts and paternal pathology in terms of alcohol abuse and depression necessitating treatment. Two further variables contributing independently to the type differentiation were additional benzodiazepine abuse by the patient and violent behavior while intoxicated.

The younger age of the C2 patients is not surprising; it is one of the most quoted characteristics of type II alcoholics. The patients had received therapy because of depression and they had a history of severe suicide attempts. Depression belongs to the most frequent comorbid disorders of opioid dependence (Frei and Rehm 2002) and its degree was found to correlate with the degree of opiate abuse (Maddux et al. 1987). Suicidal behavior is mostly a manifestation of a depressive condition and indeed opioid dependent patients who had attempted suicide or had been suicidal presented a higher level of depression and scored higher on hostility (Chatham et al. 1995; Roy 2002). Roy (2003) identified suicide attempts in 43 % of his sample, comparable with our 42 %; his suicide attempters were significantly younger than suicide non-attempters.

In agreement with our findings, higher rates of sub-

stance use disorder including alcoholism and higher rates of depression were identified in first-degree relatives of opioid addicts than in first-degree relatives of normal controls; and first-degree relatives of depressed opiate addicts had elevated rates of depression (Rounsaville et al. 1991). Among parents of male opioid addicts, alcoholism was found in 37 %, and drug abuse was found in the same proportion among their siblings (Luthar et al. 1993). Addicts with parental alcoholism suffered more frequently from concurrent depression (Kosten et al. 1985). Comorbidity of alcoholism and depression, found in fathers of our C2 patients, is frequent (Pottenger et al. 1978; Preuss et al. 2002) and the combination of both disorders tends to run in families. Genes on chromosome 1 may predispose some people to alcoholism and others to depression (Nurnberger et al. 2002).

Regarding comorbidity with benzodiazepine dependence in opioid dependent patients, prevalences of 31 % (Schmidt et al. 1987), 38 % (Browne et al. 1998) and 54 % (Rooney et al. 1999) were indicated. Patients who also abuse benzodiazepines were found to be psychologically more vulnerable and to have suffered significantly more episodes of depression and deliberate self-harm (Rooney et al. 1999); they also abused a higher amount of heroin (Glyngdal and Hansen 1997). It can not be ruled out that benzodiazepine co-abuse, leading to behavioral disinhibition, contributed to the violent behavior of the patients while intoxicated. Nevertheless, heroin use was also found to be related to a greater risk of violence (Tardiff et al. 1997) and there is a relationship between aggressiveness and depression (Bacaner et al. 2002).

Thus, the data from the literature confirm the existence of paternal alcoholism and depression in a proportion of opioid dependent patients and demonstrate the possibility of coexistence of opioid dependence with early onset and depressive disorder, suicidal behavior, benzodiazepine abuse and violent behavior. There are certainly complex multiple relationships between all these individual variables. As is the case in the two types of classification of alcoholism, our C2 patients are in a minority and the C2 type is positively defined; patients of C1 type represent a rest category, being characterized by the absence of the defining features.

Choosing a quite different procedure, a depressed type of opiate addict could be identified in our study, thus confirming earlier attempts at opiate abuser typology (Blatt et al. 1984; Blatt and Berman 1990; Rounsaville et al. 1991). The early identification of the patients of this type appears mandatory: In spite of their younger age they have a history of severe suicide attempts. Considering the high frequency of completed suicide in this population (Darke and Ross 2002) and the close relationship between depression and suicidal behavior, multimodal therapeutic interventions, also considering depressive disorder, could be life saving. Mood disorder was reported to follow the onset of substance use disorder (Hahesy et al. 2002) and to improve frequently without drugs due to its transient nature (Eiber et al. 1999). Our data do not allow us to comment on these statements directly; however, viewing the younger age of our patients and their additional benzodiazepine abuse – benzodiazepines can be helpful in depression (Petty et al. 1995) – a different sequence in these patients appears possible, the more so as their depression appears to be a family disorder.

In conclusion, the evidence could be presented to support the existence of two subgroups of opioid dependent men, consistent with previous findings of similar subgroups in a male alcoholic population. The classification could have clinical utility: it can identify a depressed type of opiate addict and could potentially help prevent addiction-related morbidity and mortality among young men. Nevertheless, we must be cautious to generalize our findings due to the limitations of the study: The sample size was relatively small and selective, being restricted to male inpatients from one type of medical setting – psychiatric hospitals. All participants were treatment seekers and represented one particular geographic area. Diagnosing comorbid psychiatric disorders such as depression in substance use disorders is difficult, but possible (Mann et al. 2004; Kidorf et al. 2004). The information was collected with an extended structured clinical interview; nevertheless, a possible recall bias (forgetfulness or falsification) might exist, concerning, e. g., information on childhood disorders. As the next step, it would be desirable to validate our results on an independent sample from another setting.

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